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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/628,839	07/31/2000	Richard M. Shupak	777.388US1	5501

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EXAMINER
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GROSS, KENNETH A

ART UNIT	PAPER NUMBER
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2122

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/628,839

Applicant(s)

SHUPAK, RICHARD M.

Examiner

Kenneth A Gross

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-65 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-13, 28-32, 38, 41-42, 50, 57, 60, and 63 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, Claim 1 states “analyzing the computer program with the annotation information before the source code is compiled”. However, the parsing, transforming, and generating steps in Claim 1 take place inside a compiler (Figure 8). How can the analyzing of the information take place before compilation if the information is obtained *during* compilation? Claims 28 and 38 contain similar errors. Claim 41 recites “the annotation information remains with the source code during execution of the computer program”. However, the source code of a computer program is transformed by a compiler into an executable program. Annotations can remain with the computer program after transformation; however, the source code is not the executable program. Claims 2-13, 29-32, 42, 50, 57, 60, and 63 are rejected for being dependent on a rejected parent Claim.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, Claim 4 recites the limitation "at least one argument of the annotation representation" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claims 57-65 recite "the annotation information remains with the source code", which is unclear. During what time period does the annotation information remain with the source code? Does the annotation information remain with the source code after compilation or during execution? Clarification is requested.

5.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 19, 20, 22-26, 33, 35, 37, and 43-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Buzbee (U.S. Patent Number 5,815,720).

In regard to Claim 19, Buzbee teaches the following: (a) reading annotation information in an executable computer program (Column 2, lines 6-12); (b) controlling the execution if the first computer analysis tool using the annotation information (Column 2, lines 12-15). Since the code is compiled again to produce optimized code, the annotation information is used before the source code is compiled again to produce the optimized code (Column 3, lines 56-65).

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Claims 33 and 43 are medium Claims that correspond with method Claim 19 and are rejected for the same reasons as Claim 19, where Buzbee teaches a medium for said method of Claim 19 (Figure 1).

In regard to Claim 24, Buzbee teaches: (a) reading the annotation information in an executable computer program (Column 2, lines 6-12); (b) modifying the executable program in accordance with the information in the annotation program (Column 2, lines 12-15).

Claims 35 and 46 are medium Claims that correspond with method Claim 24 and are rejected for the same reasons as Claim 24, where Buzbee teaches a medium for said method of Claim 24 (Figure 1).

In regard to Claims 20, 22, 23, 25, 26, 37, 44, 45, 47, and 48, for logic behind specific rejections of the limitations of these Claims, see the office action mailed on April 8<sup>th</sup>, 2003.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 8, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sterling et al. (U.S. Patent Number 5,822,588) in view of Stata et al. (U.S. Patent Number 6,353,925).

In regard to Claim 1, Sterling teaches: (a) parsing an annotation representation in the source code (Figure 5, item 122); (b) transforming the annotation representation into

intermediate language code (Figure 5, item 134); (c) generating annotation information from the intermediate language code, the annotation information corresponding to the annotation representation (Figure 5, item 142). Sterling does not teach analyzing the computer program with the annotation information before the source code is compiled. Stata, however, does teach utilizing annotations in a source code before the code is compiled (Column 2, lines 28-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of parsing an annotation representation in the source code, transforming the annotation representation into intermediate language and generating annotation information from the intermediate language code, the annotation information corresponding to the annotation representation, since this allows optimizations to be performed on the source code before the code is compiled and executed.

In regard to Claim 8, Sterling teaches performing the parsing on the front end of a compiler (Figure 5, item 132) and the generating on the back end of the compiler (Figure 5, item 136).

In regard to Claim 57, Sterling demonstrates that the annotations remain with the source code as the source code is being passed through the preprocessor (Figure 5, item 122 and 134).

10. Claims 2, 3, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sterling et al. (U.S. Patent Number 5,822,588) in view of Stata et al. (U.S. Patent Number 6,353,925) and further in view of "Compilers: Principles, Techniques, and Tools" by Alfred Aho (hereinafter Aho).

In regard to Claims 2, 3, and 9, for logic behind specific rejections of the limitations of these Claims, see the office action mailed on April 8<sup>th</sup>, 2003.

11. Claims 4, 5, 6, 11, 29, 30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sterling et al. (U.S. Patent Number 5,822,588) in view of Stata et al. (U.S. Patent Number 6,353,925) and further in view of "Compilers: Principles, Techniques, and Tools" by Alfred Aho (hereinafter Aho) and Kaneshiro et al. (U.S. Patent Number 5,950,003).

In regard to Claims 4, 5, 6, 11, 29, 30, and 32 for logic behind specific rejections of the limitations of these Claims, see the office action mailed on April 8<sup>th</sup>, 2003.

12. Claims 7, 10, 13, 28, 31, 38, 41, 42, 49, 50, 60, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sterling et al. (U.S. Patent Number 5,822,588) in view of Stata et al. (U.S. Patent Number 6,353,925) and further in view of Kaneshiro et al. (U.S. Patent Number 5,950,003).

In regard to Claims 7, 10, 13, 31 for logic behind specific rejections of the limitations of these Claims, see the office action mailed on April 8<sup>th</sup>, 2003.

In regard to Claims 49 and 50, for logic behind specific rejections of the limitations of these Claims, see the office action mailed on September 29<sup>th</sup>, 2003.

In regard to Claim 28, Sterling teaches parsing an annotation within source code associated with a computer program (Figure 5, item 122), thereby generating a parsed annotation (Figure 5, item 134), and generating annotation information from the parsed annotation function (Figure 5, item 142). Sterling does not teach analyzing the computer program with the annotation information before the source code is compiled. Stata, however, does teach utilizing annotations in a source code before the code is compiled (Column 2, lines 28-39). Neither Sterling nor Stata teach that the annotation is an intrinsic annotation function call. Kaneshiro, however, teaches annotating computer source code using intrinsic function calls in the source code (Column 5,

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lines 65-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to build the medium that performs the method of parsing an annotation within source code associated with a computer program thereby generating a parsed annotation and generating annotation information from the parsed annotation function, as taught by Sterling, where the method further includes analyzing the computer program with the annotation information before the source code is compiled, as taught by Stata, where the annotation is an intrinsic annotation function call, as taught by Kaneshiro, since this allows generating annotation information using the benefit of a function call.

Claim 60 contains limitations that have already been addressed in the rejection of Claim 57, and Claim 60 is rejected for the same reasons as Claim 57.

Claims 38 and 41 contain limitations that have already been addressed in the rejection of Claim 28, and these Claims are rejected for the same reasons as Claim 28.

Claim 42 contains limitations that have already been addressed in the rejection of Claim 1, and Claim 42 is rejected for the same reasons as Claim 1.

Claim 63 contains limitations that have already been addressed in the rejection of Claim 57, and Claim 63 is rejected for the same reasons as Claim 57.

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sterling et al. (U.S. Patent Number 5,822,588) in view of Stata et al. (U.S. Patent Number 6,353,925) and further in view of "Compilers: Principles, Techniques, and Tools" by Alfred Aho (hereinafter Aho), Kaneshiro et al. (U.S. Patent Number 5,950,003), and Shridhar (U.S. Patent Number 5,815,714).



In regard to Claim 12, for logic behind a specific rejection of the limitations of this Claim, see the office action mailed on April 8<sup>th</sup>, 2003.

14. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneshiro et al. (U.S. Patent Number 5,950,003) in view of Sterling et al. (U.S. Patent Number 5,822,588).

In regard to Claim 14, Kaneshiro teaches annotating computer code using intrinsic function calls in the source code (Column 5, lines 65-67). Kaneshiro does not teach annotating before the code is compiled. Sterling, however, does teach annotating source code before the code is compiled (Figure 5, item 122). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of annotating computer code using intrinsic function calls in the source code, as taught by Kaneshiro, where annotating source code is performed before the code is compiled, as taught by Sterling, since it is easier to interpret where to put annotations in source code than machine code.

15. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneshiro et al. (U.S. Patent Number 5,950,003) in view of Sterling et al. (U.S. Patent Number 5,822,588) and further in view of "Compilers: Principles, Techniques, and Tools" by Alfred Aho (hereinafter Aho).

In regard to Claim 15, for logic behind a specific rejection of the limitations of this Claim, see the office action mailed on April 8<sup>th</sup>, 2003.

In regard to Claim 16, both generating and emitting steps take place in the compiler, and hence are performed in parallel during the step of compilation of the source code.

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In regard to Claims 17 and 18, Claims 17 and 18 contain limitations that have already been addressed in the rejections of Claims 9 and 4, respectively, and are rejected for the same reasons as these Claims.

16. Claims 21, 27, 34, 36, and 51-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buzbee (U.S. Patent Number 5,815,720) in view of Kaneshiro et al. (U.S. Patent Number 5,950,003).

In regard to Claims 21, 27, 34, 36, and 51-56, for logic behind specific rejections of the limitations of these Claims, see the office action mailed on April 8<sup>th</sup>, 2003.

17. Claims 58, 59, 61, 62, 64, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buzbee (U.S. Patent Number 5,815,720) in view of Sterling et al. (U.S. Patent Number 5,822,588).

In regard to Claim 58, Buzbee teaches the method of Claim 19, but does not teach that the annotation information remains with the source code. Sterling, however, demonstrates that the annotations remain with the source code as the source code is being passed through the preprocessor (Figure 5, item 122 and 134). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 19, as taught by Buzbee, where the annotation information remains with the source code, as taught by Sterling, since this allows the annotations to be inserted into the source code instead of the difficult-to-comprehend machine code.

In regard to Claims 59, 61, 62, 64, and 65, these Claims contain limitations that correspond with Claim 58, and are rejected for the same reasons as Claim 58.

18. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sterling et al. (U.S. Patent Number 5,822,588) in view of Kaneshiro et al. (U.S. Patent Number 5,950,003).

In regard to Claim 39, Sterling teaches annotation information in a source computer program (Figure 5, item 122) where the annotation information remains with the source computer program during execution of the source computer program (Column 9, lines 58-63). Sterling does not teach that the annotation information is an annotation function. Kaneshiro, however, does teach the use of annotation functions (Column 5, lines 65-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to build a computer medium containing annotation information in a source computer program where the annotation information remains with the source computer program during execution of the source computer program, as taught by Sterling, where the annotation is an annotation function call, as taught by Kaneshiro, since this allows generating annotation information using the benefit of a function call.

In regard to Claim 40, Kaneshiro teaches that the annotation functions comprise operands (Table 1).

### ***Response to Arguments***

19. Applicant's arguments with respect to claims 1-65 have been considered but are moot in view of the new ground(s) of rejection.

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20. Furthermore, it is necessary when adding amendments to the claims to point out exactly where the amended limitations are specifically taught in the specification so as to demonstrate that the limitations do not contain any new matter.

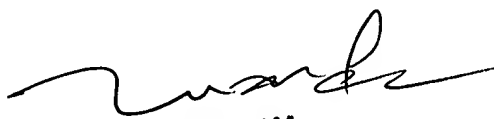
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Gross whose telephone number is (703) 305-0542. The examiner can normally be reached on Mon-Fri 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q Dam can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KAG

  
TUAN DAM  
SUPERVISORY PATENT EXAMINER